The Role of Consortia in Global Standards Development - an OGC Perspective -

Fundamentals of Standards and Conformity Assessment
for Government Agencies - Hosted by NIST, 23 June 2016

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Making location count.

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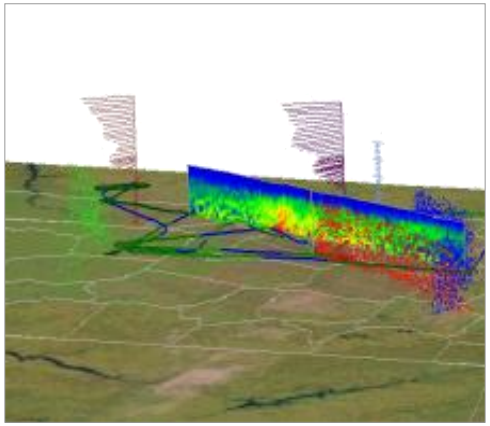
The OGC Mission

Global forum for collaboration of developers and users of spatial data products and services

Advance development of international standards for geospatial interoperability.



Source: Space Time Toolkit

Source: One Geology

Source: 3d Stadtmodell Berlin

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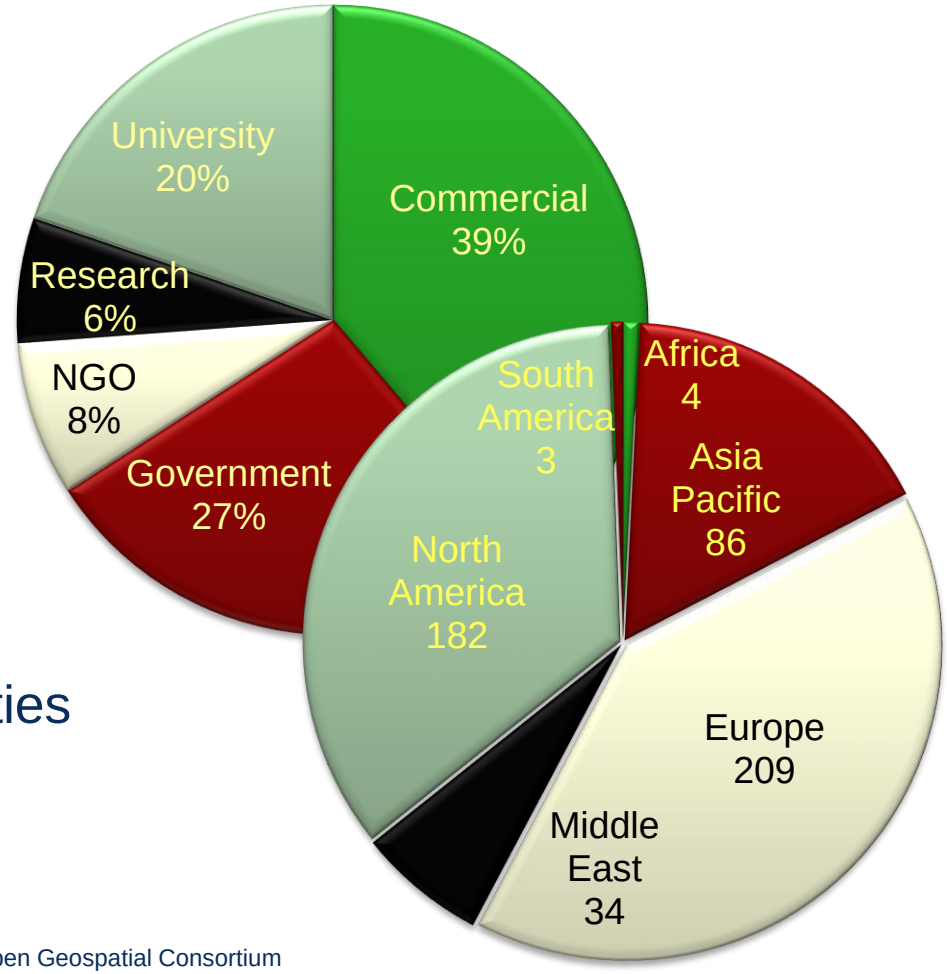
The Open Geospatial Consortium

Not-for-profit, international voluntary consensus standards organization; leading development of geospatial standards

- Founded in 1994
- 525+ member organizations
- 48 standards
- 85+ interoperability initiatives
- Thousands of implementations
- Broad user community implementation worldwide
- Alliances and collaborative activities with ISO and many other SDO's



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Example OGC Commercial Members

BAE SYSTEMS

DigitalGlobe

Google™

ESRI

HARRIS

ORACLE

INTERGRAPH

Trimble

AIRBUS DEFENCE & SPACE

BENTLEY

Pitney Bowes

agi
Analysis software for land, sea, air, & space

LOCKHEED MARTIN

AUTODESK.

IBM

ENVITIA
World Class Spatial Information Technologies

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PCI Geomatics

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NAVTEQ

1Spatial

LUCIAD

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CubeWerx
Interoperable Services for the Geo-Spatial Web

Snowflake software

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VENCORE

Insurance Evolved FM Global

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Example Government Members

- DSTL (UK) - DLR (Germany) - DIGO (Australia) - NGA (USA)
- NOAA (USA) - NASA (USA) - USGS (USA) - USACE (USA)
- DISA (USA) - DGIWG (NATO) - EUSC (Europe) - USAF Weather Agency
- DHS (USA) - PM-ISE (USA) - Census (USA) - NR Canada
- FAA (USA) - Eurocontrol - European Satellite Centre
- Abu Dhabi Police (UAE) - BRGM (France) - Ordnance Survey (UK)
- Norwegian Building Authority - Norkart (Norway) - Dubai Municipality (UAE)
- Dept Science & Tech. (India) - European Space Agency
- Ministry of Land, Infrastructure and Transport (Korea) - United Nations -
- Dept of Communications (Australia) - MET Offices
- San Francisco City/Cnty (USA) - City of Vienna (Austria)
- Others….

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http://www.opengeospatial.org/ogc/members

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Location Information Interoperability

- The ability of diverse data sources, systems and organizations to work together (inter-operate).

- **Ease information sharing**
- **Promote information reuse**
- **Reduce duplication of effort**
- **Flexibility to add new capabilities**
- **Vendor neutral**

- Saves time, reduces cost, increases market choice, protects assets and lives

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What is an OGC Standard?

- A document, established by consensus, approved by the OGC membership (balance of interest, all members have an equal vote)
- Provides rules, guidelines or characteristics
- Implementable in software
- “Open Standards” not same as “Open Source”
  OGC/OSGeo Paper on Open Source Software and Open Standards:
  http://wiki.osgeo.org/wiki/Open_Source_and_Open_Standards
- OGC standards are Open Standards
  - Freely and publicly available
  - No license fees
  - Vendor neutral

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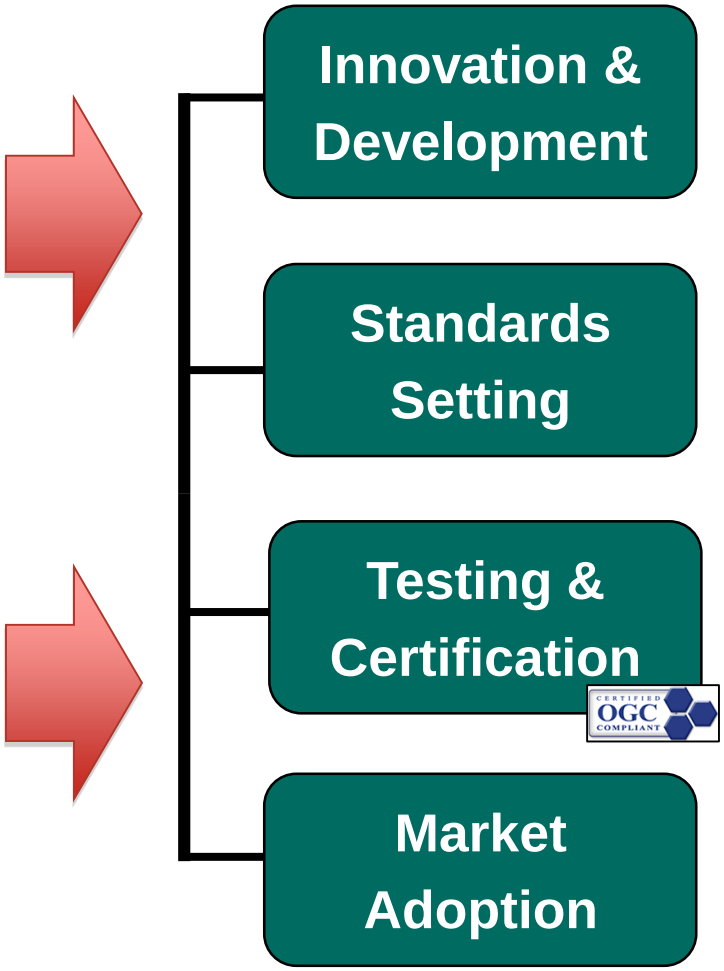
OGC's Programs for Advancing Interoperability

- ***Interoperability Program*** - a global, innovative, hands-on rapid prototyping and testing program designed to unite users and industry in accelerating interface development and validation, and the delivery of interoperability to the market.
- ***Standards Program*** - Consensus standards process similar to other Industry consortia (World Wide Web Consortium, OMA etc.).
- ***Compliance Program*** - allows organizations that implement an OGC standard to test their implementations with the mandatory elements of that standard
- ***Communications and Outreach Program*** - education and training, encourage take up of OGC specifications, business development, communications programs.



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OGC Interoperability Program
Standards development driven by prototyping

COLLABORATION	• *Aligns technology users and providers to work collaboratively*
INNOVATION	• *Agile development environment to develop, test, and validate standards under marketplace conditions and foster innovation in the community*
SHARED COSTS	• *Effective way to share the costs of developing well-crafted standards that provide concrete foundations for future enterprise architectures*
REPEATABLE PROCESS	• *Repeatable process for building & exercising private-public partnerships* to drive global trends in technology and interoperability

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Benefits of Involvement in OGC prototyping

For Participants

Business potentials

- Early insights and skill building
- Early visibility
- Early market deployment
- Direct influence
- Broaden market reach

For Sponsors

Significant efficiencies

- Ability to Determine Market Interest
- Accelerated process - workable interface specifications in 4-6 months
- Vendors test, validate and demonstrate interface integrity – Rapid time to market
- Leverage of other sponsor' funding to solve common/similar problems
- Significant ROI 2-3.5 overall (and as high as 25 for individual sponsors)

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Effectiveness of Prototyping on Standards

OGC Standards

Implementations of OGC

Source: “Innovation in OGC: The Interoperability Program,“ Percivall G.,T. Idol, N. Alameh, J. Harrison; ISPRS Int. J. Geo-Inf. 2015, 4(4), 2362-2378; doi:10.3390/ijgi4042362

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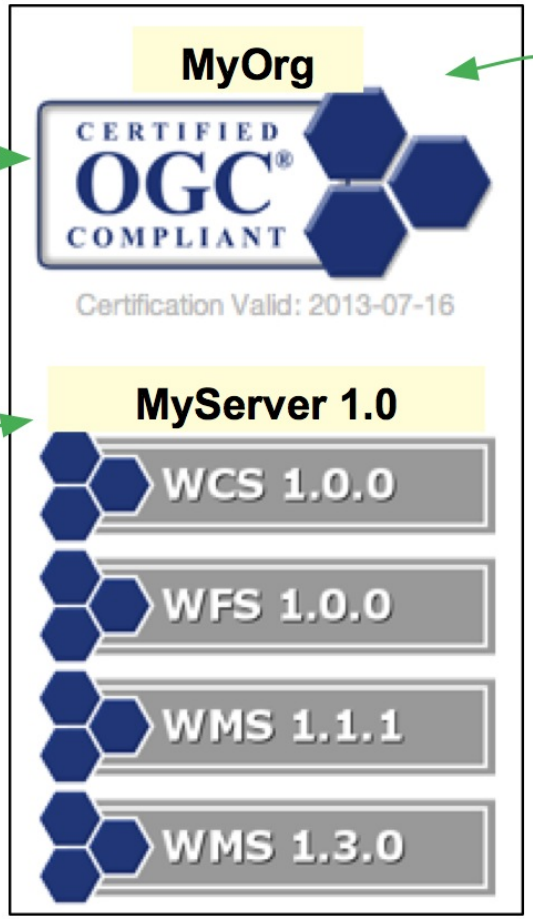
OGC Compliance Certification

The OGC compliant Mark

Related to a specific product and standard



Granted to an organization as proof of proper implementation of an OGC Standard

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Proof that a solution works

organizations procuring technology solutions

Purchasers of Software

users of open Source Software

search

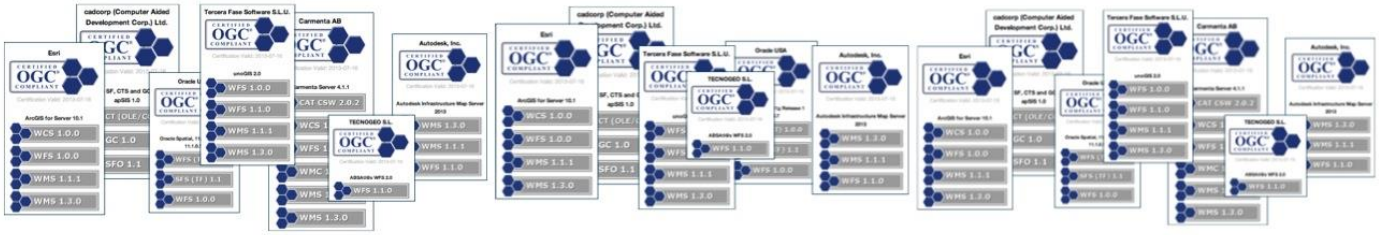
There are: 794 Implementing Products and 210 Compliant Products

The OGC Implementation database

Total = Number of implementations. **Comp** = Number of compliant products.

Total	Comp.	Specification / Version	Abrv / Version
502	121	Web Map Service (1.1.1)	WMS 1.1.1
323	66	Web Feature Service (1.0.0)	WFS 1.0.0
320	91	Web Map Service (WMS) Implementation Specification (1.3.0)	WMS 1.3.0
289	0	Web Map Service (1.0)	WMS 1.0
253	54	Web Feature Service (WFS) Implementation Specification (1.1.0)	WFS 1.1.0
252	0	Web Map Service (1.1)	WMS 1.1

verify compliance



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Benefits of Acquiring Compliant Products

- Acquiring OGC compliant products minimizes delay, cost, frustration with implementations that *claim* to implement the interoperability standard yet *fail* to interoperate.
- Acquiring OGC compliant products increases confidence that implementations will interoperate
- Recommend Request for Proposals require software that is certified to be compliant

OGC Compliance Overview - Guide for Software Acquisition – an OGC White Paper

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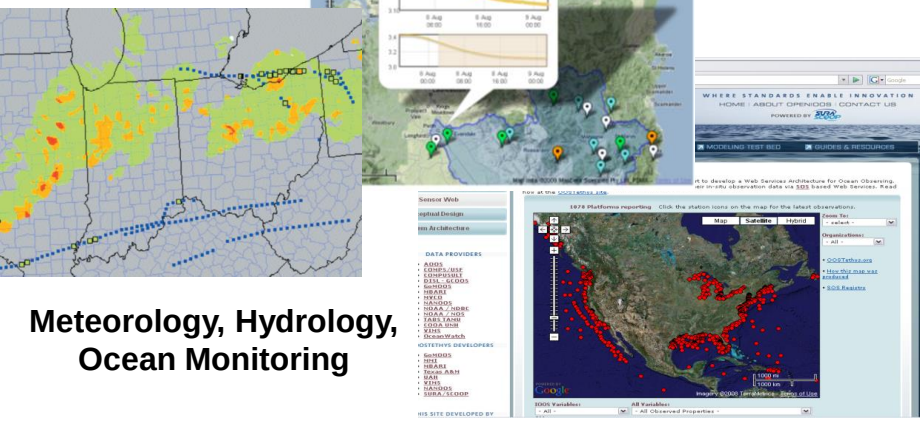
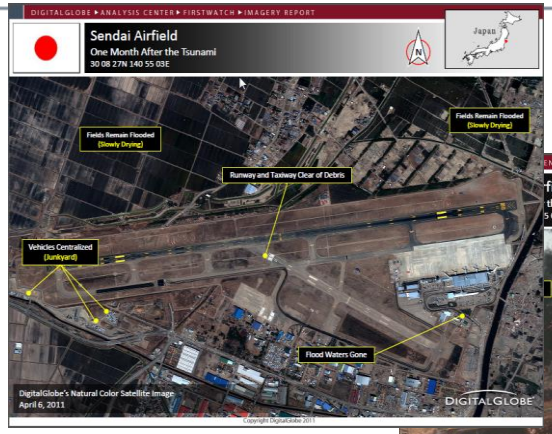
Worldwide Implementation of OGC Standards



Meteorology, Hydrology, Ocean Monitoring



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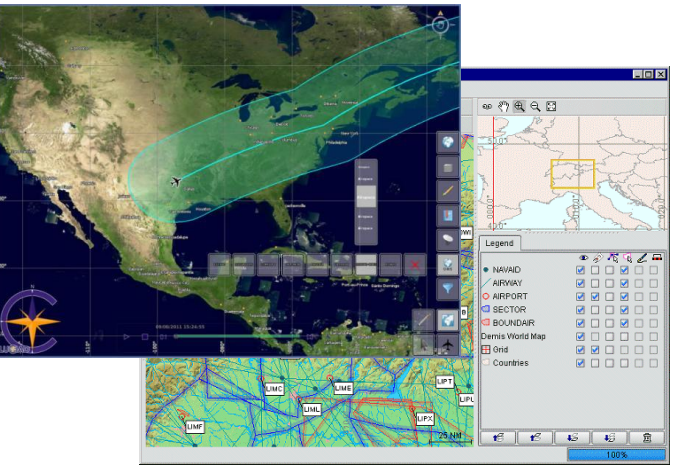
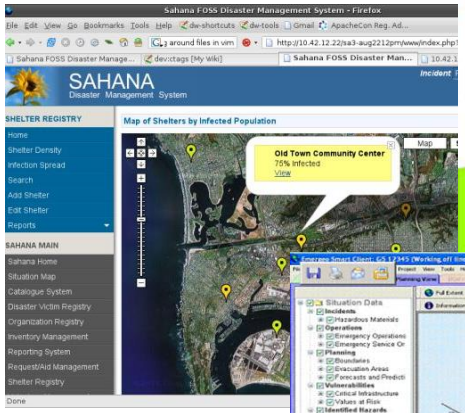
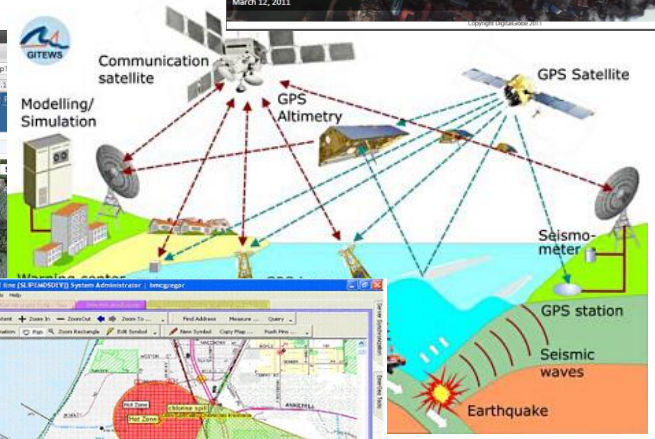
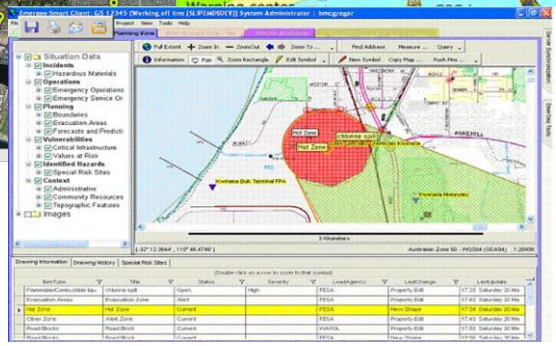


Aviation Flight Information / Safety







Emergency / Disaster Management

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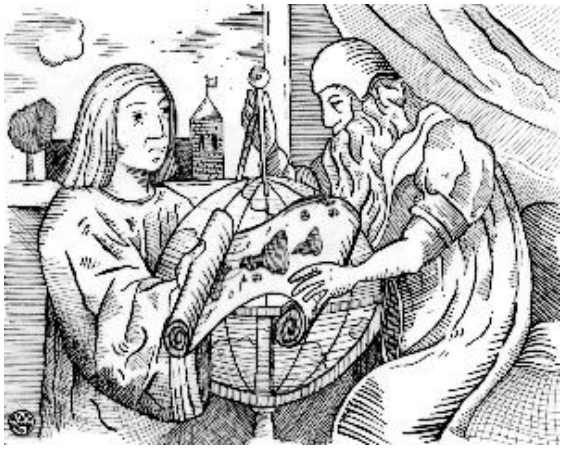
For More Information

Open Geospatial Consortium
www.opengeospatial.org

OGC Standards - freely available
www.opengeospatial.org/standards

OGC on YouTube
http://www.youtube.com/user/ogcvideo



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